

WHAT IS CLAIMED IS:

1. A communication system, comprising:
a CATV network;
a wireless entrance module (WEM) and an access point (AP) interfaced to the CATV network at the wireless entrance module (WEM); and
an Enhanced In Door WiFi Unit (EID-WiFi) connected to the CATV network;
wherein the WEM comprises means for downstream carrier sensing of uplink signals and retransmitting the uplink signals back to a downstream path.
2. The communication system as claimed in claim 1, further comprising a wireless transport module (WTM) at one or more active points of the CATV network, between the EID-WiFi and the WEM.
3. The communication system as claimed in claim 2, wherein the WTM forwards signals comprising WLAN signals and cellular signals, simultaneously.
4. The communication system as claimed in claim 1, wherein the AP communicates with end user devices according to one or more of the 802.11a, 802.11b, and 802.11g wireless standards.

5. The communication system as claimed in claim 3, wherein the EID-WiFi and the WEM are adapted to simultaneously communicate multiple signals according to one or more of the 802.11a, 802.11b, and 802.11g standards.
6. The communication system as claimed in claim 1, wherein the system communicates WLAN signals according to CSMA/CA based protocols.
7. A wireless entrance module (WEM), comprising:
 - means for communicating with a wireless access point (AP);
 - means for communicating WLAN signals of the AP over a CATV network;
 - means for converting signals between WLAN frequency bands and CATV network frequency bands; and
 - means for downstream carrier sensing of uplink signals and retransmitting the uplink signals back to a downstream path.
8. The WEM as claimed in claim 7, further comprising a dual multiple band up and down converter (UDC) adapted to simultaneously communicate multiple signals according to one or more of the 802.11a, 802.11b, and 802.11g standards.
9. The WEM as claimed in claim 7, communicating the WLAN signals according to CSMA/CA based protocols.
10. An Enhanced In Door WiFi Unit (EID-WiFi), comprising:

- means for communicating with a WiFi device;
- means for communicating WLAN signals over a CATV network;
- means for converting signals between WLAN frequency bands and CATV network frequency bands;
- means for sensing one or more of uplink and downlink signals; and
- means for controlling uplink and/or downlink paths of the signals.

11. The EID-WiFi as claimed in claim 10, further comprising a plurality of band up and down converters (UDC) adapted to simultaneously communicate multiple signals according to one or more of the 802.11a, 802.11b, and 802.11g standards.

12. The EID-WiFi as claimed in claim 10, wherein the EID-WiFi communicates WLAN signals according to CSMA/CA based protocols.

13. A method for providing WLAN communication through a CATV network, comprising:

- frequency shifting WLAN signals to a frequency spectrum operable for transmission over the CATV network; and
- transmitting the frequency shifted WLAN signals uncoupled from CATV signals over the CATV network.

14. The method according to claim 13, further comprising:

- receiving shifted downlink WLAN signals from the CATV network;

converting the shifted downlink WLAN signals to original frequency downlink WLAN signals; .

outputting the original frequency WLAN signals to an antenna;

receiving original frequency uplink WLAN signals from the antenna;

converting the original frequency uplink WLAN signals to shifted uplink WLAN signals; and

outputting the shifted uplink WLAN signals to the CATV network.

15. The method according to claim 13, wherein the WLAN signals are shifted to a band in a frequency range of 960 to 1155 MHz.

16. The method according to claim 13, wherein the WLAN signals are shifted to a band in a frequency range of 1080 to 1155 MHz Uplink and 960 to 1035 MHz Downlink.

17. The method according to claim 13, wherein the WLAN signals are communicated according to CSMA/CA based protocols.